

WHAT IS CLAIMED IS:

- Sub A2
1. A moving apparatus, comprising:
a flying body, including
a wing portion for fluttering in a space in which a fluid exists,
a driving portion for performing a down stroke in which said wing
portion is moved downward from above and an up stroke in which said wing
portion is moved upward from below, and
a main body to which said wing portion is attached and said driving
portion is mounted; wherein
by time average for the series of said down stroke and said up stroke,
vertically upward force received by said wing portion from said fluid is
larger than gravity acting on said flying body.
 2. The moving apparatus according to claim 1, wherein
volume of said space in which said wing moves in said down stroke is
larger than the volume of said space in which said wing moves in said up
stroke.
 3. The moving apparatus according to claim 1, wherein
said flying body is used as moving means for performing a prescribed
operation indoors.
 4. The moving apparatus according to claim 1, wherein
said flying body is used as moving means for performing a prescribed
operation outdoors.
 5. The moving apparatus according to claim 1, wherein
said wing portion has
a wing body portion, and
a wing shaft portion supporting said wing body portion; and
said driving portion changes a torsion angle formed by a tip end
portion of said wing body portion and a prescribed phantom reference plane,

by driving said wing shaft portion.

6. The moving apparatus according to claim 5, wherein said driving portion makes said torsion angle in said down stroke different from said torsion angle in said up stroke.

7. The moving apparatus according to claim 5, wherein said driving portion changes with time said torsion angle.

8. The moving apparatus according to claim 5, wherein said wing shaft portion includes one wing shaft portion and the other wing shaft portion;

5 said wing body portion includes a film portion formed spreading across said one wing shaft portion and said the other shaft portion; and said driving portion drives said one shaft portion and said the other shaft portion separately.

9. The moving apparatus according to claim 5, wherein said wing shaft portion reciprocates on a phantom plane with said driving portion serving as a fulcrum;

5 said main body portion extends along one direction; and an elevation formed by the direction of extension of said body portion and said phantom plane is variable.

10. The moving apparatus according to claim 1, wherein said wing portion has a main shaft portion, and a wing body portion formed in a direction approximately orthogonal to a direction of extension of said main shaft portion, from said main shaft portion; and

5 said driving portion changes a torsion angle formed by a phantom plane in contact with said wing body portion and a prescribed phantom reference plane including said main shaft portion, by driving said main

shaft portion.

(11.) The moving apparatus according to claim 10, wherein said driving portion includes an actuator having at least three degrees of freedom.

12. The moving apparatus according to claim 10, wherein said wing portion is formed on one side and the other side of approximately the center of said body portion; and

5 said driving portion drives said wing portion formed on said one side and said wing portion formed on said the other side separately.

(13.) The moving apparatus according to claim 1, comprising a sensor portion for grasping environmental condition.

(14.) The moving apparatus according to claim 1, comprising a memory portion for storing information.

(15.) The moving apparatus according to claim 1, comprising a communication portion for transmitting and receiving information.

16. The moving apparatus according to claim 8, wherein said one wing shaft portion and said the other shaft portion are formed such that a space therebetween is enlarged toward tip ends of said one wing shaft portion and said the other said shaft portion.

17. The moving apparatus according to claim 8, wherein said one wing shaft portion and said the other wing shaft portion are pivotable about the respective axes of said one wing shaft portion and said the other wing shaft portion.

(18.) The moving apparatus according to claim 1, wherein a target manner of movement is realized by time-sequentially combining

with basic operations
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Country	Year	Population	Area	Population Density	Area Density
Algeria	1960	10,000,000	2,381,472	420	0.17
Algeria	1970	12,000,000	2,381,472	504	0.21
Algeria	1980	14,000,000	2,381,472	588	0.25
Algeria	1990	16,000,000	2,381,472	672	0.28
Algeria	2000	18,000,000	2,381,472	756	0.31
Algeria	2010	20,000,000	2,381,472	840	0.34
Algeria	2020	22,000,000	2,381,472	924	0.37
Algeria	2030	24,000,000	2,381,472	1,008	0.40
Algeria	2040	26,000,000	2,381,472	1,092	0.43
Algeria	2050	28,000,000	2,381,472	1,176	0.46
Algeria	2060	30,000,000	2,381,472	1,260	0.49
Algeria	2070	32,000,000	2,381,472	1,344	0.52
Algeria	2080	34,000,000	2,381,472	1,428	0.55
Algeria	2090	36,000,000	2,381,472	1,512	0.58
Algeria	2100	38,000,000	2,381,472	1,596	0.61
Algeria	2110	40,000,000	2,381,472	1,680	0.64
Algeria	2120	42,000,000	2,381,472	1,764	0.67
Algeria	2130	44,000,000	2,381,472	1,848	0.70
Algeria	2140	46,000,000	2,381,472	1,932	0.73
Algeria	2150	48,000,000	2,381,472	2,016	0.76
Algeria	2160	50,000,000	2,381,472	2,100	0.79
Algeria	2170	52,000,000	2,381,472	2,184	0.82
Algeria	2180	54,000,000	2,381,472	2,268	0.85
Algeria	2190	56,000,000	2,381,472	2,352	0.88
Algeria	2200	58,000,000	2,381,472	2,436	0.91
Algeria	2210	60,000,000	2,381,472	2,520	0.94
Algeria	2220	62,000,000	2,381,472	2,604	0.97
Algeria	2230	64,000,000	2,381,472	2,688	1.00
Algeria	2240	66,000,000	2,381,472	2,772	1.03
Algeria	2250	68,000,000	2,381,472	2,856	1.06
Algeria	2260	70,000,000	2,381,472	2,940	1.09
Algeria	2270	72,000,000	2,381,472	3,024	1.12
Algeria	2280	74,000,000	2,381,472	3,108	1.15
Algeria	2290	76,000,000	2,381,472	3,192	1.18
Algeria	2300	78,000,000	2,381,472	3,276	1.21
Algeria	2310	80,000,000	2,381,472	3,360	1.24
Algeria	2320	82,000,000	2,381,472	3,444	1.27
Algeria	2330	84,000,000	2,381,472	3,528	1.30
Algeria	2340	86,000,000	2,381,472	3,612	1.33
Algeria	2350	88,000,000	2,381,472	3,696	1.36
Algeria	2360	90,000,000	2,381,472	3,780	1.39
Algeria	2370	92,000,000	2,381,472	3,864	1.42
Algeria	2380	94,000,000	2,381,472	3,948	1.45
Algeria	2390	96,000,000	2,381,472	4,032	1.48
Algeria	2400	98,000,000	2,381,472	4,116	1.51
Algeria	2410	100,000,000	2,381,472	4,200	1.54
Algeria	2420	102,000,000	2,381,472	4,284	1.57
Algeria	2430	104,000,000	2,381,472	4,368	1.60
Algeria	2440	106,000,000	2,381,472	4,452	1.63
Algeria	2450	108,000,000	2,381,472	4,536	1.66
Algeria	2460	110,000,000	2,381,472	4,620	1.69
Algeria	2470	112,000,000	2,381,472	4,7	